

A historical perspective on solid waste management...

The South Carolina Solid Waste Policy and Management Act of 1991 (**Act**) established and outlined South Carolina's solid waste management policy and goals. In general, it is the policy of SC to support and encourage methods of solid waste management that reduce the production and generation of waste at the source, and promote reuse and recycling of materials before entering the waste stream. Each county or region is encouraged to make every effort to meet, on an individual basis, the state solid waste recycling and reduction goals.

To measure whether or not South Carolina is achieving the goals set by the Act, the Department is required to compile and submit a comprehensive report on solid waste management in the State for the previous fiscal year. This report, the South Carolina Solid Waste Management Annual Report (**Report**), is to be submitted to the Governor and General Assembly, by March 15 of each calendar year, for the previous fiscal year. This publication is based on information submitted by each county and the solid waste management facilities for the fiscal year (**FY**) July 1, 2001 through June 30, 2002.

The Act also required the Department of Health and Environmental Control (**Department**) to develop a State Solid Waste Management Plan (**Plan**). The original Plan was published on November 27, 1992. The existing Plan is a revision of the original and was published in place of the fiscal year 1998 solid waste management annual report.

The Act establishes reporting requirements for each county or region. Counties and regions are required to submit local progress reports to the Department by October 1 of each year. Information submitted by each county or region and solid waste facility is used to compile the comprehensive state solid waste report and is critical to the completion of the Report for the previous fiscal year. At a minimum, the Report must include the following information:

- Any revisions in the state solid waste management plan;
- a description and evaluation of the progress made in implementing the state solid waste management plan;
- a description and evaluation of the progress made by local governments in implementing their solid waste management plans;
- an inventory of the amounts and types of solid waste received, recycled, incinerated or disposed of at solid waste disposal facilities and the methods of recycling, incineration or disposal used;
- a determination of the success of the state and of each county or region in achieving the solid waste recycling and reduction goals;
- recommendations to the Governor and to the General Assembly for improving the management of solid waste; and
- the number of lead-acid batteries recycled.

The Act was amended on October 3, 2001 to be consistent with EPA's solid waste recycling and reduction goals. As a result, the way solid waste recycling, reduction and generation are defined and measured changed. In addition, the Demonstration of Need Regulation (**DON**) establishes the criteria for demonstrating the need for the construction of new and the expansion of existing municipal solid waste (**MSW**) landfills, MSW incinerators, industrial solid waste (**ISW**) incinerators, Part IV (long-term) construction & demolition (**C&D**) and land clearing debris (**LCD**) landfills, and Industrial Solid Waste (**ISW**) landfills. To establish the criteria for determining need, the Department has to calculate the maximum yearly disposal of wastes generated in the county that are either disposed of in- or out-of-county, for each waste stream and facility type affected by this regulation.

Who reports what...

Near the end of each fiscal year, county administrators, recycling coordinators and solid waste contacts receive a reporting packet to aid in the collection and reporting of solid waste data. While changes have been made over the years in the request for data, the purpose of the reporting packet remains the same - to standardize reporting and the accuracy of information reported and to provide solid waste officials with the

most up-to-date information regarding solid waste in our State. The reporting packet includes educational and reference information for those responsible for collecting and reporting solid waste data.

County representatives are responsible for providing detailed recycling data, solid waste collection data, and disposal tracking information. They are also asked to provide information on recycling markets and industrial recycling efforts. Residential and county, commercial, institutional and non-profit, and industrial recycling efforts are captured on the recycling table provided in the reporting packet. County representatives use a variety of techniques to collect data from local office buildings, retail and wholesale establishments, grocery stores, fast food/restaurants, schools, colleges and universities, government agencies, fire departments, libraries, hospitals, prisons, and industry. Industrial recycling efforts are categorized as packaging and administrative, and processor waste. For FY02, all of South Carolina's 46 counties submitted annual progress reports.

County representatives completing the local progress report do not provide disposal data for the solid waste facilities located in the county. Permitted solid waste facilities, including county operated ones, are required to submit annual reports to the Department. Since disposal data influences recycling and reduction calculations, as well as DON approvals, disposal data for the State is based on these required reports. The Department uses disposal data provided on the annual reports of the permitted solid waste facilities to derive disposal data for each county.

US Census Population statistics for SC are available from the SC Budget and Control Board. The Department uses the US Census population statistics available as of April during the reporting year for rate calculations.

While the South Carolina Department of Parks, Recreation and Tourism (**PRT**) can provide South Carolina visitor information, PRT has suggested that the Department continue to use local tourist numbers provided by the counties on the progress report for the annual report. Counties provide tourist data and the source of this information on the progress report.

The Department, local governments, and others use information in this publication for the purposes of solid waste management, planning, education, and technical assistance. This document is not intended to cover hazardous wastes generated by commercial and/or industrial businesses, domestic or industrial waste waters, radioactive wastes, fertilizers such as animal manure applied during normal agricultural operations or refuse as defined by the South Carolina Mineral Act.

Defining MSW and Measuring Solid Waste Activities

The annual solid waste management reporting packet or survey is designed to help local and state officials capture solid waste data and measure solid waste activities using standardized methods. Some of these methods have originated from work done by EPA and published in the EPA guide, *Measuring Recycling, A Guide for State and Local Governments*. While used in part as a template for developing the tools South Carolina currently uses to measure solid waste reduction and recycling, there are differences between how EPA and South Carolina define certain solid waste terms and measure solid waste activities.

The Act was amended October 3, 2001, and changed the way South Carolina measures solid waste reduction and recycling. Several changes were made to the Act as a result of the amendments, including the addition of a definition of MSW.

MSW is defined in the Act as wastes that are durable goods, nondurable goods, containers and packaging, food scraps, yard waste, and miscellaneous inorganic wastes from residential, commercial, institutional, and industrial sources including but not limited to, appliances, automobile tires, old newspapers, clothing, disposable tableware, office and classroom paper, wood pallets, and cafeteria wastes. MSW does not include solid wastes from other sources including but not limited to, construction and demolition debris, auto bodies, municipal sludges, combustion ash, and industrial process wastes that also might be disposed of in MSW landfills and incinerators.

Visit EPA's website to learn more about national solid waste activities:

<http://www.epa.gov/epaoswer/non-hw/muncpl/facts.htm>.

South Carolina's Solid Waste Goals

South Carolina's solid waste goals are based on recycling and disposal figures for MSW, as defined in the Act and referred to as "**Defined MSW**." To maximize reduction, it is South Carolina's goal to reduce on a statewide per capita basis, the amount of MSW being generated to 3.5 pounds per day by June 30, 2005. It is South Carolina's goal to recycle, on a statewide basis, at least thirty-five percent (35%), calculated by weight, of the municipal solid waste stream generated in this state, no later than June 30, 2005.

How South Carolina measures solid waste reduction and recycling is very similar to how EPA measures these efforts. However, there are notable differences. For example, South Carolina considers refuse derived fuel (waste-to-energy) a form of recycling while EPA does not identify combustion (for example, waste tires chipped for energy recovery) as recycling. South Carolina is bound by the language in the Act and any interpretations of references provided are based on South Carolina law as stated in the Act.

Legislative Update

During the 2002 legislative session of the South Carolina General Assembly, there were no amendments to the Solid Waste Policy and Management Act or any of the Department's regulation governing solid waste management.

Demographics

The number of South Carolina residents, visitors to South Carolina, and the number of businesses and industries located in South Carolina, impacted on solid waste generation and management for the fiscal year. Each county or region should address residential and county/local government, commercial, institutional and non-profit, and industrial solid waste streams.

The State Budget and Control Board's Office of Research and Statistics, Health and Demographics Section provided population statistics for South Carolina and the counties. Based on US Census data provided, the state's population was 4,063,011 as of the July 2001 population estimate.

According to PRT, tourist data provided by the counties would be more appropriate for this Report, based on the methods of data collection. Thus, tourist data was provided by the counties. According to county reports for the fiscal year, 29,972,240 tourists visited South Carolina during FY02. The counties also reported a total of 70 new industries in the state for FY02.

Solid Waste Management

Recycling data is provided by the counties. Counties report recycling efforts for glass, metal, paper, plastics, banned items (lead acid batteries, used oil, waste tires, white goods, yard waste and land clearing debris), construction & demolition debris, and other miscellaneous items. Counties report residential and county, commercial, institutional and non-profit, and industrial recycling efforts within the county. During FY02, almost 5 million tons of recyclables were collected. Of this total, 1.3 million tons of MSW were recycled. Of the MSW recycled, less than one percent was glass, 26% was metal, 35% was paper and paperboard, 2% was plastics, and 27% consisted of banned items (lead acid batteries, waste tires, white goods and yard waste).

Disposal data was taken from the annual reports submitted to the Department by the municipal solid waste (MSW) landfills, construction & demolition debris/land-clearing debris (C&D/LCD) landfills, industrial solid waste (ISW) landfills, solid waste (SW) incinerators, and transfer stations. According to the MSW landfill reports, 4.6 million tons of solid waste were disposed of in the MSW landfills and 79% of this waste came from SC (3.7 million tons). Seventy-seven percent (2.9 million tons) of the solid waste from South Carolina disposed of in the MSW landfills was MSW.

Over one million tons of solid waste from South Carolina disposed of in the MSW landfills went through transfer stations around the state prior to disposal. Over 150,000 tons of solid waste from South Carolina were exported out of state for disposal.

During FY02, each South Carolinian generated an average of 5.9 pounds of MSW for recycling and disposal per day. Based on other solid waste facility reporting, a little over 800,000 tons of ISW were disposed of in the ISW landfills. All of the waste disposed of in the ISW landfills originated from South Carolina. A little more than 1.6 million tons of C&D/LCD were disposed of in the C&D/LCD landfills during FY02 and less than one percent came from out of state.

All of the MSW and LCD incinerated in FY02 originated from South Carolina. A little over 0.2 million tons were incinerated during FY02. Ninety percent of the solid waste incinerated was MSW.

According to information reported by the counties for FY02, 564,552 households were offered curbside collection of both MSW and recyclables. About 1.5 million households were served by solid waste drop-off sites during the fiscal year and several counties continued to serve their population through the use of 159 greenbox sites.

During FY02, South Carolina had 18 permitted municipal solid waste landfills. One of these facilities, Union County MSW Landfill, was permitted during the fiscal year and did not accept waste during the fiscal year. Sixteen of these facilities meet the Resource Conservation and Recovery Act (RCRA) Subtitle D standards. Two non-subtitle D landfills continue to operate under consent agreements with the Department.

South Carolina recycled 28.7% of the MSW waste stream generated during FY02. The FY02 rate remained relatively unchanged from the previous fiscal year primarily because of the lack of markets and the reduced revenue generated by recyclables. However, the actual recycling rate continues to improve in accuracy as a result of numerous factors, including but not limited to, public education and cooperation between local governments, commercial establishments and private industry; recycling technical assistance and more accurate reporting of industrial efforts.

Department Oversight

The Department's "solid waste group" consists of the Solid Waste Planning and Compliance Section and the Solid Waste Facility Engineering Section of the Division of Mining and Solid Waste Management, the Solid Waste Enforcement Section of the Division of Compliance Monitoring and Enforcement, the Solid Waste Hydrogeology Section of the Division of Hydrogeology, the Division of the Office of Reduction and Recycling, and the twelve Environmental Quality Control District Offices located throughout the state.

During FY02, the **Solid Waste Enforcement Section** issued 54 Notices of Violation and Enforcement Conferences, 37 Orders, and 12 Warning Letters.

The **Solid Waste Hydrogeology Section** managed the ground water monitoring activities of approximately 75 active and closed municipal solid waste facilities and 37 industrial waste landfills during FY02.

During FY02, the 12 **Environmental Quality Control District Offices** conducted routine compliance related inspections of the solid waste management facilities. District staff completed 2,249 inspections in FY02.

The Office of Solid Waste Reduction and Recycling (Office) has initiated several public-private partnerships and produced a variety of publications providing information and technical assistance for schools, local governments, and the public. The Office continued to maintain a Resource Center with national, state, and local information. Additionally, almost \$5.7 million were awarded in grants to local governments and schools through six specific grant programs available through the Office.

The Solid Waste Advisory Council (SWAC)

The Solid Waste Advisory Council (SWAC) is composed of various government and industry representatives. SWAC is charged with advising the Department on solid waste planning issues and, with making recommendations to Department staff regarding the solid waste grants.

Policies, Strategies and Barriers

As the economy remained sluggish during the year, markets for recyclables were depressed. Capital was not available to expand into new recycling programs. The amount of grant monies available to local governments declined as the State tightened its belt due to budget woes. In some instances, counties were landfilling certain materials that were previously recycled because landfilling was less expensive. Local governments were finding it more difficult to maintain or increase the amount of material being recovered from the solid waste stream for recycling. Some counties and municipalities were finding it difficult to honor contracts for solid waste services. It is unlikely that a substantial increase in the recycling rate will occur until the economy improves.

Fiscal Impact Statement

The Department's Solid Waste Management Program expenditures for FY02 were \$7,312,103.18. The total revenues from the sale of lead-acid batteries, white goods, tires, and motor oil were \$6,407,148.56. During FY02, \$4,372,654 were transferred to the General Fund under budget provisos.

Recommendations for Improving Solid Waste Management

As required by the Act, this report must include recommendations to the Governor and to the General Assembly for improving the management of solid waste in South Carolina. Implementation of the following recommendations should improve solid waste management in the State.

As stated in previous annual reports, the Department continues to encourage innovative approaches to managing solid waste. During the past year, the Department has received permit applications for bioreactors and plasma arc facilities. Though the Department has and intends to permit these facilities under the Research, Development, and Demonstration Regulations, the Department believes that more appropriate regulatory criteria need to be developed for these types of facilities. The US EPA intends to amend Part 258 of Subtitle D of the Resource, Conservation, and Recovery Act (RCRA) to address bioreactors at municipal solid waste landfills. The Department intends to modify the State Solid Waste Management Plan to address facilities such as plasma arc processors.

The Department is in the process of establishing three new solid waste investigator positions to assist in controlling and deterring open dumping of solid waste. These officers will be supervised by the Environmental Quality Control (EQC) Criminal Investigators and will be assigned to certain areas of the state to investigate open dumping and other solid waste related complaints. The solid waste investigators will work closely with the Central Office compliance staff, District solid waste inspectors, and local litter officers. Hopefully, with the additional emphasis on open dumping by these investigators, the Department will be able to curb open dumping around the state.